

CLAIMS

in Application Entitled

ELECTRONIC TRACK LIGHTING SYSTEM

1. An arrangement comprising:
- a source providing a power line voltage between a first and a second power line terminal;
 - a power track having a first and a second track conductor; the power track being operative to receive and hold a number of track lighting units; each one track lighting unit having a pair of load terminals; which load terminals, when the one track lighting unit has been received and is indeed being held by the power track, make electrical connection with the track conductors; and
 - voltage conditioner means connected in circuit between the power line terminals and the track conductors; the voltage conditioner means being operative to convert the power line voltage provided between the power line terminals to a track voltage provided between the track conductors; there being, through the voltage conditioner means, an electrical conduction path between the first track conductor and one of the power line terminals; the fundamental frequency of the track voltage being substantially higher than that of the power line voltage.
2. The arrangement of claim 1 wherein the absolute instantaneous magnitude of the track voltage is substantially equal to that of the power line voltage during a significant part of each half-cycle of the power line voltage.
3. The arrangement of claim 1 wherein the first track conductor is, via action occurring within the voltage conditioner means, alternately and periodically switched between the first and the second power line terminal at the frequency of the track voltage.
4. The arrangement of claim 1 wherein the first track conductor is, via action taking place within the voltage conditioner means, periodically connected with the first power line terminal; such that, while such connection is taking place, the electrical potential of the first track conductor is substantially the same as that of the first power line terminal.

5. An arrangement comprising:

a source providing a power line voltage between a first and a second power line terminal;

a power track having a first and a second track conductor; the power track being operative to receive and releaseably hold a number of track lighting units; each one track lighting unit having a pair of load terminals; which load terminals, when said one track lighting unit has been received and is indeed being held by the power track, make electrical connection with the track conductors; and

voltage conditioner means connected in circuit between the power line terminals and the track conductors; the voltage conditioner means being characterized by functioning: (i) repeatedly and periodically to connect for a brief period of time the first track conductor with the first power line terminal, and (ii) in such manner as to provide between the track conductors a track voltage having a fundamental frequency substantially higher than that of the power line voltage.

6. The arrangement of claim 5 wherein the brief period of time has a duration that is approximately equal to half that of the fundamental period of the track voltage.

7. An arrangement comprising:

a source providing a power line voltage between a first and a second power line terminal;

a power track having a first and a second track conductor; the power track being operative to receive and releaseably hold a number of track lighting units; each one track lighting unit having a pair of load terminals; which load terminals, when said one track lighting unit has been received and is indeed being held by the power track, make electrical connection with the track conductors; and

voltage conditioner means connected in circuit between the power line terminals and the track conductors; the voltage conditioner means being characterized by functioning: (i) periodically and alternately to cause electrical connection between the first track conductor and the first and second power line terminals, and (ii) to provide between the track conductors a track voltage having a fundamental frequency substantially higher than that of the power line voltage.

8. An arrangement comprising:

a source providing a power line voltage between a first and a second power line terminal;

a power track having a first and a second track conductor; the power track being operative to receive and releaseably hold a number of track lighting units; each one track lighting unit having a pair of load terminals; which load terminals, when said one track lighting unit has been received and is indeed being held by the power track, make electrical connection with the track conductors; and

voltage conditioner means connected in circuit between the power line terminals and the track conductors; the voltage conditioner means being: (i) operative to provide between the track conductors a track voltage having a fundamental frequency substantially higher than that of the power line voltage, and (ii) characterized by causing the electrical potential of the first track conductor to be substantially equal to that of the first power line terminal during a significant portion of each half-cycle of the track voltage.

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a2*

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c2*

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B2*